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EXAMINER	
DESIR, PIERRE LOUIS	
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2617	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/28/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/692,196	BLACK, GREG R.	
	Examiner	Art Unit	
	Pierre-Louis Desir	2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 November 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-39 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5-6, 11-18, 26-27, 30-31, and 35-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Rosen et al. (Rosen), Pub. No. US 2002/0173325.

Regarding claim 1, Rosen discloses a method of push-to-talk operation, comprising: monitoring push-to-talk usage of a mobile communication device, the usage being by a user of the mobile communication device (i.e., monitoring net traffic) (see paragraph 27); determining a push-to-talk metric (i.e., PTT latency) based on the push to talk usage of the mobile communication device (i.e., in an IP-based VoIP dispatch service, while there is an active conversation going on between group participants, the packet data connection for each user remains active. However, after a period of inactivity, i.e., "hang time," in the group communications the user traffic channels may

transition to the dormant state. While the packet data service is active for all users, PTT requests, which may be IP datagrams sent between the MS and the dispatch server, have very low latency. However, if the user channels have previously transitioned to the dormant state, **the PTT latency may be much longer**. In some infrastructures, to wake up a dormant data connection, the traffic channel must be reallocated, the resources must be reassigned, and the radio link protocol (RLP) layer must be reinitialized. The effect of this is that after a talk group has not talked for a while, when a user presses his PTT button to request the floor, the PTT latency for the first talk spurt is generally much longer than for subsequent talk spurts. While this is relatively infrequent, it can affect the utility of the service, **and should be minimized** (i.e., mitigated). When the group communication devices are in the dormant state, FPTT latency may be caused by the following: Talker Channel Assignment Delay--Delay in assigning and initializing a traffic channel for the talker's phone in response to a user pushing a push-to-talk button and the dispatch application initiating an IP-based floor-request message. 2. Floor Request Propagation Delay--Time for a floor-request message to propagate to the dispatch server. 3. Arbitration Delay--Time for the dispatch server to process potentially multiple floor requests. 4. Wakeup Message Delay--Time for the IP messages from the dispatch server to propagate to the cellular infrastructure, e.g., PDSN, serving the listener. 5. Listener Paging Delay--Time delay due to the requirement to wait for the listener's phone to wake up and receive a page in the appropriate paging channel slot. 6. Listener Channel Assignment Delay--Delay in assigning and initializing the traffic channels of the listeners' phone) (see paragraphs 44-55); and selecting a push-to-talk session unavailability mitigation based on the push-to-talk metric (i.e., to reduce the PTT latency,

in one embodiment, the group call signaling, such as the floor-control requests, floor-control responses, and dormancy wakeup messages, may be transmitted on some available common channels, without waiting for dedicated traffic channels to be re-established) (see paragraph 57)—**Also refer to paragraphs 58-130 describe other selection of a push-to-talk session unavailability mitigation (or reduction).**

Regarding claim 2, Rosen discloses a method (see claim 1 rejection) wherein the session unavailability comprises a delay of an activation of a push-to-talk session (i.e., when the group communication devices are in the dormant state, FPTT latency may be caused by the following: Talker Channel Assignment Delay--Delay in assigning and initializing a traffic channel for the talker's phone in response to a user pushing a push-to-talk button and the dispatch application initiating an IP-based floor-request message. 2. Floor Request Propagation Delay--Time for a floor-request message to propagate to the dispatch server. 3. Arbitration Delay--Time for the dispatch server to process potentially multiple floor requests. 4. Wakeup Message Delay--Time for the IP messages from the dispatch server to propagate to the cellular infrastructure, e.g., PDSN, serving the listener. 5. Listener Paging Delay--Time delay due to the requirement to wait for the listener's phone to wake up and receive a page in the appropriate paging channel slot. 6. Listener Channel Assignment Delay--Delay in assigning and initializing the traffic channels of the listeners' phone) (see paragraphs 50-55).

Regarding claim 3, Rosen discloses a method (see claim 1 rejection) wherein the session unavailability mitigation comprises a mitigation of delay of an activation of a push-to-talk session (i.e., the wakeup trigger 402 may be resent every 500 ms. However, retransmitting the wakeup triggers 402 at this rate may cause a maximum delay of up to

500 ms, or an average delay of 250 ms, from the time a listener's traffic channel is re-established to the time next wakeup trigger destined for that listener arrives at the infrastructure. In one embodiment, the infrastructure or another entity in the network may cache the wakeup trigger 402 sent by the CM, and deliver it to a target MS as soon as the target MS has re-established its traffic channel. This eliminates the need for retransmission of wakeup request 412 by the CM, and reduces total dormancy wakeup time. Cashing the wakeup trigger 402, as opposed to retransmitting it at the rate of 500 ms, for example, may eliminate a delay of up to 500 ms. from the total dormancy wakeup time (see paragraphs 84-85). —**Also refer to paragraphs 79-83, 86-130.**

Regarding claim 5, Rosen discloses a method (see claim 1 rejection) wherein the session unavailability mitigation further comprises establishing a reverse link for a selected time period in anticipation that a reverse push-to-talk session is established (i.e., the client MS may send the PTT floor request 302 over a reverse common channel, such as the access channel or enhanced access channel, before attempting to re-establish its dedicated traffic channel (see paragraphs 29, 30, 58, 63, 65, and 72).

Regarding claim 6, Rosen discloses a method (see claim 1 rejection) wherein the session unavailability mitigation comprises holding a push-to-talk button for a selected time period after release of a push-to-talk button in anticipation that a subsequent push-to-talk session is established (i.e., when a user in the NBS 100 desires to transmit information to other net members, the user may depress the push-to-talk switch located on his or her CD, sending a floor-control request to obtain the transmission privilege from CM 110. If no other net member is currently assigned the transmission privilege, the requesting user may be granted the transmission privilege and the user may be

notified by an audible, visual, or tactile alert through the CD. After the requesting user has been granted the transmission privilege, information may then be transmitted from that user to the other net member) (see paragraphs 28, and 66-67).

Regarding claim 11, Rosen discloses a method (see claim 1 rejection) wherein the push-to-talk metric is based on a measurement of a length of a delay of push-to-talk channel activation (i.e., when the group communication devices are in the dormant state, FPTT latency may be caused by the following: Talker Channel Assignment Delay--Delay in assigning and initializing a traffic channel for the talker's phone in response to a user pushing a push-to-talk button and the dispatch application initiating an IP-based floor-request message. 2. Floor Request Propagation Delay--Time for a floor-request message to propagate to the dispatch server. 3. Arbitration Delay--Time for the dispatch server to process potentially multiple floor requests. 4. Wakeup Message Delay--Time for the IP messages from the dispatch server to propagate to the cellular infrastructure, e.g., PDSN, serving the listener. 5. Listener Paging Delay--Time delay due to the requirement to wait for the listener's phone to wake up and receive a page in the appropriate paging channel slot. 6. Listener Channel Assignment Delay--Delay in assigning and initializing the traffic channels of the listeners' phone) (see paragraphs 50-55).

Regarding claim 12, Rosen discloses a method (see claim 1 rejection) wherein the push-to-talk metric is based on a probability of an activation of a subsequent push-to-talk session (i.e., to wake up a dormant data connection, the traffic channel must be reallocated, the resources must be reassigned, and the radio link protocol (RLP) layer must be reinitialized. The effect of this is that after a talk group has not talked for a while, when a user presses his PTT button to request the floor, the PTT latency for the

first talk spurt is generally much longer than for subsequent talk spurts) (see paragraph 48).

Regarding claim 13, Rosen discloses a method (see claim 1 rejection) wherein the push-to-talk metric is based on a time measurement of the length of time of a push-to-talk channel interruption (i.e., time delay between when the user requests the floor and when he receives a positive or negative confirmation from the server that he has the floor) (see paragraph 6).

Regarding claim 14, Rosen discloses a method (see claim 1 rejection), wherein the push-to-talk metric is based on a probability of a push-to-talk channel interruption (i.e., to wake up a dormant data connection, the traffic channel must be reallocated, the resources must be reassigned, and the radio link protocol (RLP) layer must be reinitialized. The effect of this is that after a talk group has not talked for a while, when a user presses his PTT button to request the floor, the PTT latency for the first talk spurt is generally much longer than for subsequent talk spurts) (see paragraphs 6 and 48).

Regarding claim 15, Rosen discloses a method (see claim 1 rejection) wherein the push-to-talk metric is based on a time between subsequent push-to-talk sessions from the same mobile communication device (i.e., when a user presses his PTT button to request the floor, the PTT latency for the first talk spurt is generally much longer than for subsequent talk spurts) (see paragraphs 6 and 48).

Regarding claim 16, Rosen discloses a method (see claim 1 rejection) wherein the push-to-talk metric is based on a probability of subsequent push-to-talk sessions from the same mobile communication device (i.e., when a user presses his PTT button to request

the floor, the PTT latency for the first talk spurt is generally much longer than for subsequent talk spurts) (see paragraphs 6 and 48).

Regarding claim 17, Rosen discloses a method (see claim 1 rejection) wherein the push-to-talk metric is based on a probability of a push-to-talk session from one mobile communication device and a subsequent push-to-talk session from another mobile communication device on a reverse channel (floor control request, floor control response, and dormancy wakeup messages) (see paragraphs 50-56, 58. Also refer to paragraphs 120-130 which describe the PTT latency reduction as related to a PTT session from one communication device (talker) to another communication device (listener)).

Regarding claim 18, Rosen discloses a method (see claim 1 rejection) wherein the push-to-talk metric is based on a length of time of a push-to-talk session (i.e., time delay) (see paragraphs 50-55).

Regarding claim 26, Rosen discloses a method push-to-talk operation for a mobile communication device, comprising: loading at least one push-to-talk mitigation parameter (i.e., transmission of group call signaling over some available common channels) (see paragraph 57); executing a push-to-talk algorithm to configure at least one push-to-talk session unavailability mitigation based on the push-to-talk mitigation parameter, the push-to-talk session unavailability mitigation controlling the operation of a push-to-talk function of the mobile communication device (i.e., with the transmission of the group signaling over the available common channels, the system inherently executes a PTT algorithm to reduce the PTT latency) (see paragraph 57); establishing a push-to-talk session for the mobile communication device (i.e., sending a PTT floor request) (see paragraph 63); monitoring at least one metric of push-to-talk operation of the mobile

communication device, the metric of push-to-talk operation being based on the usage of the communication device by a user of the mobile communication device (i.e., monitoring net traffic) (see paragraph 27); modifying a push-to-talk mitigation parameter based on the at least one metric of push-to-talk operation of the mobile communication device (i.e., to wake up a dormant data connection, the traffic channel must be reallocated, the resources must be reassigned, and the radio link protocol (RLP) layer must be reinitialized. The effect of this is that after a talk group has not talked for a while, when a user presses his PTT button to request the floor, the PTT latency for the first talk spurt is generally much longer than for subsequent talk spurts. And, when the group communication devices are in the dormant state, FPTT latency may be caused by Floor Request Propagation Delay. To reduce the PTT latency, in one embodiment, the group call signaling, such as the floor-control requests, floor-control responses, and dormancy wakeup messages, may be transmitted on some available common channels, without waiting for dedicated traffic channels to be re-established---Thus, the time delay that is associated with the floor request is modified, i.e., reduced, when the request is transmitted using on some available common channel) (see paragraphs 48-57); reconfiguring the at least one push-to-talk session unavailability mitigation based on the modified push to talk mitigation parameter (modification process and the reconfiguration process are analogous. Also the specification is silent to what is involved in the step of reconfiguration; therefore, the reconfiguring step is being interpreted as understood by Examiner) (see paragraphs 57-67).

Regarding claim 27, Rosen discloses a method (see claim 26 rejection) wherein session unavailability comprises a delay of an activation of a push-to-talk session (i.e.,

when the group communication devices are in the dormant state, FPTT latency may be caused by the following: Talker Channel Assignment Delay--Delay in assigning and initializing a traffic channel for the talker's phone in response to a user pushing a push-to-talk button and the dispatch application initiating an IP-based floor-request message. 2. Floor Request Propagation Delay--Time for a floor-request message to propagate to the dispatch server. 3. Arbitration Delay--Time for the dispatch server to process potentially multiple floor requests. 4. Wakeup Message Delay--Time for the IP messages from the dispatch server to propagate to the cellular infrastructure, e.g., PDSN, serving the listener. 5. Listener Paging Delay--Time delay due to the requirement to wait for the listener's phone to wake up and receive a page in the appropriate paging channel slot. 6. Listener Channel Assignment Delay--Delay in assigning and initializing the traffic channels of the listeners' phone) (see paragraphs 50-55).

Regarding claim 30, Rosen discloses an apparatus for push-to-talk operation (see abstract), comprising: a usage monitor configured to monitor push-to-talk usage of a mobile communication device (i.e., SM 112 monitors net traffic) (see paragraph 27); a metric determination module configured to determine a push-to-talk metric based on the push to talk usage of the mobile communication device (PTT latency) (see paragraphs 48-57); and a mitigation selector configured to select a push-to-talk session unavailability mitigation based on the push-to-talk metric (i.e., to reduce the PTT latency, in one embodiment, the group call signaling, such as the floor-control requests, floor-control responses, and dormancy wakeup messages, may be transmitted on some available common channels, without waiting for dedicated traffic channels to be re-established)

(see paragraph 57)—**Also refer to paragraphs 58-130 describe other selection of a push-to-talk session unavailability mitigation (or reduction).**

Regarding claim 31, Rosen discloses an apparatus (see claim 30 rejection) wherein the session unavailability mitigation comprises a mitigation of delay of an activation of a push-to-talk session (i.e., when the group communication devices are in the dormant state, FPTT latency may be caused by the following: Talker Channel Assignment Delay--Delay in assigning and initializing a traffic channel for the talker's phone in response to a user pushing a push-to-talk button and the dispatch application initiating an IP-based floor-request message. 2. Floor Request Propagation Delay--Time for a floor-request message to propagate to the dispatch server. 3. Arbitration Delay--Time for the dispatch server to process potentially multiple floor requests. 4. Wakeup Message Delay--Time for the IP messages from the dispatch server to propagate to the cellular infrastructure, e.g., PDSN, serving the listener. 5. Listener Paging Delay--Time delay due to the requirement to wait for the listener's phone to wake up and receive a page in the appropriate paging channel slot. 6. Listener Channel Assignment Delay--Delay in assigning and initializing the traffic channels of the listeners' phone) (see paragraphs 50-55).

Regarding claim 35, Rosen discloses an apparatus (see claim 30 rejection) wherein the push-to-talk metric is based on a measurement of a length of a delay of a push-to-talk channel activation (i.e., when the group communication devices are in the dormant state, FPTT latency may be caused by the following: Talker Channel Assignment Delay--Delay in assigning and initializing a traffic channel for the talker's phone in response to a user pushing a push-to-talk button and the dispatch application

initiating an IP-based floor-request message. 2. Floor Request Propagation Delay--Time for a floor-request message to propagate to the dispatch server. 3. Arbitration Delay--Time for the dispatch server to process potentially multiple floor requests. 4. Wakeup Message Delay--Time for the IP messages from the dispatch server to propagate to the cellular infrastructure, e.g., PDSN, serving the listener. 5. Listener Paging Delay--Time delay due to the requirement to wait for the listener's phone to wake up and receive a page in the appropriate paging channel slot. 6. Listener Channel Assignment Delay--Delay in assigning and initializing the traffic channels of the listeners' phone) (see paragraphs 50-55).

Regarding claim 36, Rosen discloses an apparatus (see claim 30 rejection) wherein the push-to-talk metric is based on a time measurement of the length of time of a push-to-talk channel interruption (i.e., time delay between when the user requests the floor and when he receives a positive or negative confirmation from the server that he has the floor) (see paragraph 6).

Regarding claim 37, Rosen discloses an apparatus (see claim 30 rejection) wherein the push-to-talk metric is based on a time between subsequent push-to-talk sessions from the same mobile communication device (i.e., when a user presses his PTT button to request the floor, the PTT latency for the first talk spurt is generally much longer than for subsequent talk spurts) (see paragraphs 6 and 48).

Regarding claim 38, Rosen discloses an apparatus (see claim 30 rejection) wherein the push-to-talk metric is based on a probability of a push-to-talk session from one mobile communication device and a subsequent push-to-talk session from another mobile communication device on a reverse channel (floor control request, floor control

response, and dormancy wakeup messages) (see paragraphs 50-56, 58. Also refer to paragraphs 120-130 which describe the PTT latency reduction as related to a PTT session from one communication device (talker) to another communication device (listener)).

Regarding claim 39, Rosen discloses an apparatus (see claim 30 rejection) wherein the push-to-talk metric is based on a length of time of a push-to-talk session (i.e., time delay) (see paragraphs 50-55).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 4, 7-8, 28-29, 32-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosen in view of Applicant admitted prior art (Admission), Pub. No. US 2005/0090228.

Regarding claim 4, Rosen discloses a method as described above (see claim 1 rejection).

Although Rosen discloses a method as described, Rosen does not specifically disclose a method wherein the session unavailability mitigation further comprises selecting a packet switched channel.

However, Admission discloses a method wherein while a packet switched connection may result in a higher probability of session interruption, the packet switched connection can result in less session activation delays (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Admission with the teachings as described by Rosen to arrive at the claimed invention. A motivation for doing so would have been to provide a connection, which would result in less activation delays (see paragraph 7).

Regarding claim 7, Rosen discloses a method (see claim 1 rejection) wherein to reduce PTT latency group call signaling, such as the floor-control requests, floor-control responses, and dormancy wakeup messages, may be transmitted on some available common channels, without waiting for dedicated traffic channels to be re-established. Such common channel may be always available. Thus, interruption of a PTT channel will be reduced since floor requests, floor responses may be transmitted on some common channel) (see paragraph 57).

Although Rosen discloses a method as described, Rosen does not specifically disclose a method wherein the session unavailability mitigation is a mitigation of interruption of a push-to-talk channel.

However, Admission discloses a method wherein a circuit switched connection can result in less session interruption (e.g., selecting a circuit switched connection can result in the mitigation or reduction of session interruption (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings to arrive at the claimed invention. A motivation for doing so would have been to arrive at a method which would result in less session interruption.

Regarding claim 8, Rosen discloses a method as described above (see claim 1 rejection).

Although Rosen discloses a method as described, Rosen does not specifically disclose a method wherein the session unavailability mitigation further comprises selecting a circuit switched channel.

However, Admission discloses a method wherein while a circuit switched connection may cause delays, the circuit switched connection can result in less session interruption (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Admission with the teachings as described by Rosen to arrive at the claimed invention. A motivation for doing so would have been to provide a connection, which would result in less session interruption (see paragraph 7).

Regarding claim 28, Rosen discloses a method as described above (see claim 26 rejection).

Although Rosen discloses a method as described, Rosen does not specifically disclose a method wherein the session unavailability mitigation further comprises selecting a packet switched channel.

However, Admission discloses a method wherein while a packet switched connection may result in a higher probability of session interruption, the packet switched connection can result in less session activation delays (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Admission with the teachings as described by Rosen to arrive at the claimed invention. A motivation for doing so would have been to provide a connection, which would result in less activation delays (see paragraph 7).

Regarding claim 29, Rosen discloses a method as described above (see claim 26 rejection).

Although Rosen discloses a method as described, Rosen does not specifically disclose a method wherein the session unavailability mitigation further comprises selecting a circuit switched channel.

However, Admission discloses a method wherein while a circuit switched connection may cause delays, the circuit switched connection can result in less session interruption (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Admission with the teachings as described by Rosen to arrive at the claimed invention. A motivation for doing so would have been to provide a connection, which would result in less session interruption (see paragraph 7).

Regarding claim 32, Rosen discloses an apparatus as described above (see claim 30 rejection).

Although Rosen discloses an apparatus as described, Rosen does not specifically disclose an apparatus wherein the session unavailability mitigation further comprises selecting a packet switched channel.

However, Admission discloses an apparatus wherein while a packet switched connection may result in a higher probability of session interruption, the packet switched connection can result in less session activation delays (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Admission with the teachings as described by

Rosen to arrive at the claimed invention. A motivation for doing so would have been to provide a connection, which would result in less activation delays (see paragraph 7).

Regarding claim 33, Rosen discloses an apparatus (see claim 30 rejection) wherein to reduce PTT latency group call signaling, such as the floor-control requests, floor-control responses, and dormancy wakeup messages, may be transmitted on some available common channels, without waiting for dedicated traffic channels to be re-established. Such common channel may be always available. Thus, interruption of a PTT channel will be reduced since floor requests, floor responses may be transmitted on some common channel) (see paragraph 57).

Although Rosen discloses an apparatus as described, Rosen does not specifically disclose an apparatus wherein the session unavailability mitigation is a mitigation of interruption of a push-to-talk channel.

However, Admission discloses an apparatus wherein a circuit switched connection can result in less session interruption (e.g., selecting a circuit switched connection can result in the mitigation or reduction of session interruption (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings to arrive at the claimed invention. A motivation for doing so would have been to arrive at a method which would result in less session interruption..

Regarding claim 34, Rosen discloses an apparatus as described above (see claim 30 rejection).

Although Rosen discloses an apparatus as described, Rosen does not specifically disclose an apparatus wherein the session unavailability mitigation further comprises selecting a circuit switched channel.

However, Admission discloses an apparatus wherein while a circuit switched connection may cause delays, the circuit switched connection can result in less session interruption (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Admission with the teachings as described by Rosen to arrive at the claimed invention. A motivation for doing so would have been to provide a connection, which would result in less session interruption (see paragraph 7).

6. Claims 9-10, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosen in view of Dailey, U.S. Patent No. 6449491.

Regarding claim 9, Rosen discloses a method as described above (see claim 1 rejection).

Although Rosen discloses a method of push-to-talk operation as described above, Rosen does not specifically disclose a method of push-to-talk operation wherein the session unavailability mitigation comprises prohibiting a network handover of the mobile communication device.

However, Dailey discloses a terminal, which includes a PTT button, operatively associated with a disclosed controller and it is used to initiate and conduct half-duplex group calls. During the half-duplex group calls, most terminals of the group are not transmitting at any given time; as a result, these terminals cannot transmit information

that is needed for handoffs. Thus, network handover would be prohibited because of this inability (see col. 4, lines 43-52, col. 8, lines 64-67, and col. 9, lines 1-9).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Rosen with the teachings of Dailey to arrive the claimed invention. A motivation for doing so would have been to provide a method that is able to quickly and efficiently establish and conduct group calls.

Regarding claim 10, Rosen discloses a method as described above (see claim 1 rejection).

Although Rosen discloses a method of push-to-talk operation as described above, Rosen does not specifically disclose a PTT method wherein the session unavailability mitigation comprises prohibiting a network handover of the mobile communication device for a selected time period.

However, Dailey discloses a method wherein a terminal, which includes a PTT button, operatively associated with a disclosed controller and it is used to initiate and conduct half-duplex group calls. During the half-duplex group calls, most terminals of the group are not transmitting at any given time; as a result, these terminals cannot transmit information that is needed for handoffs... Also, by using half-duplex communications over a common traffic channel, the overhead associated with normal call setup and control procedures can be avoided. For example, pages and page acknowledgments need not be transmitted to establish a group call, and handoffs need not occur as a terminal moves across a coverage boundary during a call. Addition efficiency may be gained using the special group call paging channels and compressed message formats. Thus, because of this inability, network handover would be prohibited for a selected time (i.e.,

time when the terminal is moving across a coverage boundary during a call) (see col. 4, lines 43-52, col. 8, lines 64-67, and col. 9, lines 1-9).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Rosen with the teachings of Dailey to arrive the claimed invention. A motivation for doing so would have been to avoid the overhead associated with call setup.

Regarding claim 19, Rosen discloses a method as described above (see claim 1 rejection).

Although Rosen disclosed a method as described above, Rosen does not specifically disclose a method wherein the push-to-talk metric is based on a probability of handoff of the push-to-talk session.

However, Dailey discloses a method wherein a terminal, which includes a PTT button, operatively associated with a disclosed controller and it is used to initiate and conduct half-duplex group calls. During the half-duplex group calls, most terminals of the group are not transmitting at any given time; as a result, these terminals cannot transmit information that is needed for handoffs (i.e., probability of Handoff)... Also, by using half-duplex communications over a common traffic channel, the overhead associated with normal call setup and control procedures can be avoided. For example, pages and page acknowledgments need not be transmitted to establish a group call, and handoffs need not occur as a terminal moves across a coverage boundary during a call. Addition efficiency may be gained using the special group call paging channels and compressed message formats. Thus, because of this inability, network handover would be prohibited

for a selected time (i.e., time when the terminal is moving across a coverage boundary during a call) (see col. 4, lines 43-52, col. 8, lines 64-67, and col. 9, lines 1-9).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Rosen with the teachings of Dailey to arrive the claimed invention. A motivation for doing so would have been to provide a method that is able to quickly and efficiently establish and conduct group calls.

7. Claims 20-23, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosen in view of Crockett et al. (Crockett), U.S. Patent No. 6781963.

Regarding claim 20, Rosen discloses a method of push-to-talk operation for a mobile communication device, comprising: establishing a push-to-talk session employing the session unavailability mitigation (i.e., to reduce the PTT latency, in one embodiment, the group call signaling, such as the floor-control requests, floor-control responses, and dormancy wakeup messages, may be transmitted on some available common channels, without waiting for dedicated traffic channels to be re-established) (see paragraph 57)—**Also refer to paragraphs 58-130 describe other employing of a push-to-talk session unavailability mitigation (or reduction)**; monitoring a parameter of operation of the push-to-talk session device (i.e., monitoring net traffic) (see paragraph 27); and modifying the push-to-talk metric based on the parameter of operation of the push-to-talk session (i.e., to wake up a dormant data connection, the traffic channel must be reallocated, the resources must be reassigned, and the radio link protocol (RLP) layer must be reinitialized. The effect of this is that after a talk group has not talked for a while, when a user presses his PTT button to request the floor, the PTT latency for the

first talk spurt is generally much longer than for subsequent talk spurts. And, when the group communication devices are in the dormant state, FPTT latency may be caused by Floor Request Propagation Delay. To reduce the PTT latency, in one embodiment, the group call signaling, such as the floor-control requests, floor-control responses, and dormancy wakeup messages, may be transmitted on some available common channels, without waiting for dedicated traffic channels to be re-established---Thus, the time delay that is associated with the floor request is modified, i.e., reduced, when the request is transmitted using on some available common channel) (see paragraphs 48-57).

Although Rosen discloses a method as described, Rosen does not specifically disclose a method comprising comparing at least one push-to-talk usage metric to a push-to-talk usage metric threshold, the push-to-talk usage metric being based on the usage of the mobile communication device by a user of the mobile communication device; selecting a session unavailability mitigation based on comparing the push-to-talk usage metric to the push-to-talk usage metric threshold.

However, Crockett discloses a method wherein the instant response relates to the response time it takes for the applicant server to respond to any PTT request, including group call set up request, is to consistently respond to the request in a predetermined time period, e.g., one second or less **(i.e., PTT usage metric threshold)**. In many cases, when a user requests to set up a group call, the user's packet data session is dormant and no dedicated traffic channels exists. Re-establishing dedicated traffic channel may take considerable time **(i.e., as compared to PTT usage metric threshold)**. Therefore, communication to the application server may be accomplished **through some other means** (e.g., modifying the session of unavailability). To insure that the group

communication system **meets the "instant response," small IP datagrams may be sent at any time in either direction (i.e., selection of a session unavailability mitigation (reducing delay))** (see col. 12, lines 52-66, and col. 23, lines 17-25, and lines 50-64).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings as described by the Rosen and Crockett to arrive at the claimed invention. A motivation for doing so would have been to provide a method that is able to quickly and efficiently establish and conduct group calls.

Regarding claim 21, Rosen discloses a method (see claim 20 rejection) wherein the session unavailability comprises a delay of an activation of a push-to-talk channel (i.e., when the group communication devices are in the dormant state, FPTT latency may be caused by the following: Talker Channel Assignment Delay--Delay in assigning and initializing a traffic channel for the talker's phone in response to a user pushing a push-to-talk button and the dispatch application initiating an IP-based floor-request message. 2. Floor Request Propagation Delay--Time for a floor-request message to propagate to the dispatch server. 3. Arbitration Delay--Time for the dispatch server to process potentially multiple floor requests. 4. Wakeup Message Delay--Time for the IP messages from the dispatch server to propagate to the cellular infrastructure, e.g., PDSN, serving the listener. 5. Listener Paging Delay--Time delay due to the requirement to wait for the listener's phone to wake up and receive a page in the appropriate paging channel slot. 6. Listener Channel Assignment Delay--Delay in assigning and initializing the traffic channels of the listeners' phone) (see paragraphs 50-55).

Regarding claim 22, Rosen discloses a method (see claim 20 rejection) further comprising modifying a session unavailability mitigation parameter as a function of a

push-to-talk usage metric (i.e., to wake up a dormant data connection, the traffic channel must be reallocated, the resources must be reassigned, and the radio link protocol (RLP) layer must be reinitialized. The effect of this is that after a talk group has not talked for a while, when a user presses his PTT button to request the floor, the PTT latency for the first talk spurt is generally much longer than for subsequent talk spurts. And, when the group communication devices are in the dormant state, FPTT latency may be caused by Floor Request Propagation Delay. To reduce the PTT latency, in one embodiment, the group call signaling, such as the floor-control requests, floor-control responses, and dormancy wakeup messages, may be transmitted on some available common channels, without waiting for dedicated traffic channels to be re-established---Thus, the time delay that is associated with the floor request is modified, i.e., reduced, when the request is transmitted using on some available common channel) (see paragraphs 48-57)).

Regarding claim 23, Rosen discloses a method (see claim 22 rejection) wherein the session unavailability mitigation parameter comprises a time to delay the end of a push-to-talk session after a user releases a push-to-talk button (i.e., the system allows the talker to start talking before the listeners traffic channel have been fully re-established. Thus, when the user releases the end of this PTT session is inherently delayed until the listeners traffic channel is re-established) (see paragraph 87).

Regarding claim 25, Rosen discloses a method (see claim 22 rejection) wherein the session unavailability mitigation parameter comprises duration of a reverse push-to-talk session from another mobile communication device (floor control request, floor control response, and dormancy wakeup messages) (see paragraphs 50-56, 58. Also refer to paragraphs 120-130 which describe the PTT latency reduction as related to a PTT

session from one communication device (talker) to another communication device (listener)).

8. Claim 24 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rosen and Crockett further in view of Applicant admitted prior art (Admission), Pub. No. US 2005/0090228.

Regarding claim 24, Rosen discloses a method as described above (see claim 22 rejection).

Although Rosen discloses a method as described, Rosen does not specifically disclose a method wherein the session unavailability mitigation parameter comprises a selection of a circuit switched push-to-talk session and a packet switched push-to-talk session channel.

However, Admission discloses a method wherein while a packet switched connection may result in a higher probability of session interruption, the packet switched connection can result in less session activation delays, and while a circuit switched connection may cause delays, the circuit switched connection can result in less session interruption (see paragraph 7).

Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings as described by Admission with the teachings as described by Rosen to arrive at the claimed invention. A motivation for doing so would have been to provide a connection, which would result in less session interruption and less session activation delays (see paragraph 7).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pierre-Louis Desir whose telephone number is (571) 272-7799. The examiner can normally be reached on Monday-Friday 8:00AM-5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Pierre-Louis Desir
12/16/2006

JEAN GELIN
PRIMARY EXAMINER